

24 February 1961

Dr. Edward Anders
The Enrico Fermi Institute for Nuclear Studies
The University of Chicago
Chicago, Illinois

Dear Dr. Anders:

Thank you for sending me a prepublication copy of your article "The Moon as a Collector of Biological Material". Each approach to this subject is different, and I found yours most interesting. The only problem is that the various approaches do not all lead to the same conclusions, and it looks more than ever that the question of the moon's biology if any, will be finally settled by direct examination.

Dr. Calvin, for example, in the paper he gave with Susan K. Vaughn at the same COSPAR symposium in Nice where Dr. Lederberg presented his paper to which you refer, refers to the tons of material coming to the earth (and hence presumably the moon) every year in the form of meteorites and reported finding evidence of organic material among certain of the larger meteorites. It might be interesting to make the calculations of the tons of material reaching the moon yearly, and the fraction of this material which may contain carbonaceous material. In other words, the meteors may carry far more organic material directly to the moon than they may "splash up" from the earth, if I understand your thesis correctly.

In any case, I would think that care in keeping any earthly contamination of the moon to a bare minimum until we have had a chance to examine it for any possible evidence of biological material is well warranted, even if only to determine whether earth forms found there were deposited in the 20th Century or millennia ago. Needless to say, I am delighted to see that you amended your article to exclude the planets. On the question of every precaution with our planetary probes, there seems to be no scientific disagreement. And where better could we practice sterilization techniques for planetary probes than on lunar ones, particularly since if we follow the Russian time table, planetary shots are only about two years behind lunar ones in schedule.

Yours truly,



CHARLES R. PHILLIPS
Chief, Physical Defense Division

cc: Dr. Lederberg
Mr. Posner